AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the above-identified patent application.

LISTING OF THE CLAIMS

1. (currently amended) A multi-state, multi-layer magnetic memory device, comprising:

a nonmagnetic spacer region with a surface; and

a free magnetic region positioned adjacent to the surface of the nonmagnetic spacer region, the free magnetic region including:

a first magnetic layers having a first thickness; and

a second magnetic layer positioned adjacent to the nonmagnetic spacer region, the second magnetic layer having a second thickness that is greater than about 40 Å and also greater than the first thickness.

2. (cancelled).

3. (cancelled)

4. (currently amended) A device as claimed in claim [[3]]1 wherein the second magnetic layer is an amorphous magnetic alloy.

5. (cancelled)

6. (previously presented) A device as claimed in claim 1 wherein the free magnetic region includes an anti-ferromagnetic coupling spacer layer.

7. (previously presented) A device as claimed in claim 6 wherein the anti-ferromagnetic coupling spacer material includes at least one of copper (Cu), silver (Ag), gold (Au),

chromium (Cr), ruthenium (Ru), rhenium (Re), osmium (Os), titanium (Ti), Rhodium (Rh), platinum (Pt), palladium (Pd), and alloys thereof.

8. (original) A device as claimed in claim 1 wherein the free magnetic region includes at least one of nickel (Ni), iron (Fe), cobalt (Co), manganese (Mn), combinations thereof, and alloys thereof.

9. (original) A device as claimed in claim 1 wherein the free magnetic region includes a synthetic anti-ferromagnetic material region including N ferromagnetic layers which are anti-ferromagnetically coupled where N is a whole number greater than or equal to two.

10. (previously presented) A device as claimed in claim 9 wherein each of the N ferromagnetic layers is anti-ferromagnetically coupled by sandwiching a layer of an anti-ferromagnetic coupling material between each adjacent ferromagnetic layer in the N ferromagnetic layers.

11. (previously presented) A device as claimed in claim 1 wherein a fixed magnetic region is positioned adjacent to a second surface of the nonmagnetic spacer region.

12. (previously presented) A device as claimed in claim 1 wherein the nonmagnetic spacer region includes at least one of aluminum oxide (AlO), aluminum nitride (AlN), silicon oxide (SiO).

13. (original) A device as claimed in claim 1 wherein the nonmagnetic spacer is a conductive material including at least one of copper (Cu), chromium (Cr), silver (Ag), and gold (Au).

14. (previously presented) A device as claimed in claim 9 wherein one of the N ferromagnetic layers of the synthetic anti-ferromagnetic material region that is positioned adjacent

to the surface of the nonmagnetic spacer is at least as thick as any of the other N ferromagnetic layers which comprise the synthetic anti-ferromagnetic material region.

15-32. (cancelled)

33. (previously presented) A device as claimed in claim 2 wherein the second thickness is less than approximately 120 Å.